Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A composite porous membrane, which comprises at least one porous membrane comprising an organic polymer and at least one supporting porous membrane adjacent thereto,

the composite porous membrane having a structure in which the porous membrane adhering to the supporting porous membrane and the supporting porous membrane located adjacent thereto can be observed through pores of the porous membrane by a microscope observation from the surface of the porous membrane,

~~wherein the organic polymer constituting the porous membrane penetrates into at least a portion of the surface of the supporting porous membrane adjacent to the porous membrane,~~ and

when the membrane flat surface of the porous membrane is observed using a photomicrograph, the porous membrane has an opening ratio between 10% and 90%, an average pore diameter D (μm) of $0.1 \leq D \leq 50$, a standard deviation σd (μm) of pore diameter of $0 \leq \sigma d/D \leq 0.6$, and the percentage of through-pores to all the pores of the porous membrane of 30% or more; when a membrane section thereof is observed using a photomicrograph, the porous membrane has an average membrane thickness T (μm) defined by $0.05 \leq T/D \leq 2$ and a structure in which pores adjacent to one another communicate with one another therein; and the supporting porous membrane has continuous pores with an average pore diameter of 0.5 D (μm) or more.

2. (Original) The composite membrane according to Claim 1, wherein the porous membrane has an average membrane thickness T (μm) of $0.1 \leq T \leq 50$, and the supporting porous membrane has an average pore diameter of 1 μm or more.

3. (Previously Presented) The composite membrane according to Claim 1, wherein the porous membrane has an average pore diameter D (μm) of $0.1 \leq D \leq 20$ and an average membrane thickness T (μm) of $0.1 \leq T \leq 20$, and the supporting porous membrane has an average pore diameter between 1 and 100 μm and wherein a standard deviation σt (μm) of the membrane thickness is defined by $0 \leq \sigma t/T \leq 0.5$.

4. (Previously Presented) The composite porous membrane according to claim 1, wherein the porous membrane has an opening ratio between 15% and 80% and an average pore diameter D (μm) of $0.5 \leq D \leq 20$.

5. (Previously Presented) A blood filtration membrane comprising the composite porous membrane according to claim 1.

6. (Previously Presented) A cell culture diaphragm comprising the composite porous membrane according to claim 1, which partitions different cell groups in a cell culture solution so that the different cell groups come into contact with each other, and which is used for co-culture of the cells.

7. (Withdrawn) A process for producing the composite porous membrane according to claim 1, which comprises steps of: allowing a supporting porous membrane to retain a liquid that is not compatible with a solution of an organic polymer in a hydrophobic organic solvent; casting the solution of the organic polymer in the hydrophobic organic solvent on the supporting porous membrane; and evaporating the hydrophobic organic solvent in an environment wherein a relative humidity is between 20% and 100% near the membrane, so as to form a porous membrane containing said organic polymer as a main component on the supporting porous membrane.

8. (Withdrawn) The process according to Claim 7, wherein the liquid that is not compatible with the solution of the organic polymer in the hydrophobic organic solvent is water.

9. (Withdrawn) A process for producing a hemocyte suspension from which leukocytes have been removed, which comprises: passing a hemocyte suspension to be treated through a first filter with a capability of removing leukocytes between 1.0 and 3.5 for 450 cm^3 of the

hemocyte suspension to be treated; and then passing the whole hemocyte suspension discharged from the first filter through a second filter comprising one or more composite porous membranes according to claim 1.

10. (Previously Presented) A leukocyte removal filter device comprising a first filter disposed on the entrance side of the hemocyte suspension to be treated and a second filter disposed on the exit side thereof, wherein the first filter has a capability of removing leukocytes between 1.0 and 3.5 for 450 cm^3 of the hemocyte suspension to be treated, and the second filter comprises one or more composite porous membranes according to claim 1;

wherein the capability of removing leukocytes = -log {the concentration of leukocytes after filtration of a hemocyte suspension/the concentration of leukocytes before filtration thereof}.

11. (Original) The leukocyte removal filter device according to Claim 10, wherein the effective area of the second filter is between 4 and 300 cm^2.

12. (Previously Presented) The leukocyte removal filter device according to Claim 10, which has a filter element with a volume between 2 and 18 cm^3.

13. (Canceled)

14. (Withdrawn) A process for culturing cells, which comprises: disposing the composite porous membrane according to claim 1 in a cell culture solution to establish at least two culture regions; introducing different cell groups into the at least two culture regions adjacent to each other, respectively, and co-culturing the cells.

15. (Previously Presented) A cell co-culture device comprising the cell culture diaphragm according to claim 6, which divides different cell groups in a cell culture solution in a state where they are allowed to come into contact with each other, so as to co-culture the cells.

16. (Previously Presented) A cell co-culture device comprising an integrated cup-type culture container which comprises the cell culture diaphragm according to claim 6 and a tube

having said cell culture diaphragm adhered to one end face of said tube, and a container which can hold said cup-type culture container and a cell culture solution inside.

17. (Previously Presented) The composite porous membrane according to claim 1, obtained by:

allowing a supporting porous membrane to retain a liquid that is not compatible with a solution of an organic polymer in a hydrophobic organic solvent;

casting the solution of the organic polymer in the hydrophobic organic solvent on the supporting porous membrane;

and evaporating the hydrophobic organic solvent in an environment wherein a relative humidity is between 20% and 100% near the membrane, so as to form a porous membrane containing said organic polymer as a main component on the supporting porous membrane.

18. (Previously Presented) The composite porous membrane according to claim 2, obtained by:

allowing a supporting porous membrane to retain a liquid that is not compatible with a solution of an organic polymer in a hydrophobic organic solvent;

casting the solution of the organic polymer in the hydrophobic organic solvent on the supporting porous membrane;

and evaporating the hydrophobic organic solvent in an environment wherein a relative humidity is between 20% and 100% near the membrane, so as to form a porous membrane containing said organic polymer as a main component on the supporting porous membrane.

19. (Previously Presented) The composite porous membrane according to claim 3, obtained by:

allowing a supporting porous membrane to retain a liquid that is not compatible with a solution of an organic polymer in a hydrophobic organic solvent;

casting the solution of the organic polymer in the hydrophobic organic solvent on the supporting porous membrane;

and evaporating the hydrophobic organic solvent in an environment wherein a relative humidity is between 20% and 100% near the membrane, so as to form a porous membrane containing said organic polymer as a main component on the supporting porous membrane.

20. (Previously Presented) The composite porous membrane according to claim 4, obtained by:

allowing a supporting porous membrane to retain a liquid that is not compatible with a solution of an organic polymer in a hydrophobic organic solvent;

casting the solution of the organic polymer in the hydrophobic organic solvent on the supporting porous membrane;

and evaporating the hydrophobic organic solvent in an environment wherein a relative humidity is between 20% and 100% near the membrane, so as to form a porous membrane containing said organic polymer as a main component on the supporting porous membrane.

21. (New) The composite membrane according to claim 1, wherein the porous membrane has an average pore diameter D (μm) of $0.8 \leq D \leq 10$ and an average membrane thickness T (μm) of $0.5 \leq T \leq 20$; and the supporting porous membrane has continuous pores with an average pore diameter of 1μm or more.

22. (New) The composite membrane according to claim 21, wherein the porous membrane has an average membrane thickness T (μm) of $0.8 \leq T \leq 10$, and the supporting porous membrane has an average pore diameter between 1 and 100 μm and wherein a standard deviation σt (μm) of the membrane thickness is defined by $0 \leq \sigma t/T \leq 0.5$.

23. (New) The composite porous membrane according to claim 21, wherein the porous membrane has an opening ratio between 15% and 80%.